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# Library Automation in Thailand

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## Abstract

The National Library of Thailand (NLT) as well as Thailand's university libraries have been very active in automating their systems and services to meet increasing demands for various service types and advanced information technology. Under the leadership of the Ministry of University Affairs(MUA), several automation, digitization and networking programs are being carried out by NLT and a group of Thai university libraries. NLT has automated its system by employing DYNIX for acquisition, cataloguing, OPAC, circulation etc., and has digitized its image documents by using MEGA MEDIA for image storage/retrieval and BRS/SEARCH for indexing. For the purpose of cross-library services and resources sharing, MUA has supported projects which link the libraries of provincial and central universities by two computer networks, called PULINET and THAILINET-M, respectively, which are outlined below together with a summary of work planned for the future.

## 1. Introduction

Generation of data, information and knowledge has increased tremendously in quantity and form(media) in the wake of advances in their production and distribution technologies. As a consequence, it has become difficult for a single library to collect all documents required and to provide satisfactory services to its users. Users expect to receive complete, on time, up-to-date and accurate information. Many libraries have attempted by means of computer networks to overcome this challenge and to make their services and operations more efficient by automation and cooperation with other libraries. A library network lets its participants share resources and thus saves time and labor and reduces certain expenditure.

Thai libraries have faced this problem since the middle of the Eighties. In March 1986, seven libraries of six provincial universities initiated a collaborative scheme with the aim of sharing and developing information resources such as catalogues and serials databases. Over the years, addition of three more provincial universities and substantial financial support from the Ministry of University Affairs (MUA) led to the important Provincial University Library and Information Network (PULINET). In parallel, the Thai Academic Library and Information Network-Metropolitan (THAILINET-M) was established by 12 universities in the Bangkok Metropolitan area. These two networks are to be merged eventually into the Thai Academic Library and Information Network (THAILINET). Moreover, the National Library of Thailand (NLT) under the Education Ministry has also started an automation project and has implemented in 1996 a trial digital library system with a simple architecture.

This article describes the aims, current status and future plans of NLT, PULINET and THAILINET-M.

## 2. The National Library of Thailand

In Thailand, MUA is responsible for higher and the Ministry of Education (ME) for primary, secondary, and vocational education, the latter's responsibilities including also the National Library (NLT) with branches scattered all over the country.

ME has financed since 1991 NLT's aims to improve operational efficiency and to accommodate new services such as multimedia information storage and retrieval. These library automation activities include:

### 1. Employment of DYNIX

In 1991, NLT purchased an IBM RISC/6000 Model 530 with 16-user DYNIX (upgraded to 32 users in 1995) to facilitate acquisition, cataloguing, OPAC, serials control, circulation, media scheduling, mobile library management and community services.

### 2. An Electronic Information Storage and Retrieval System

This system with the two major subsystems of Image Document and Full-Text handling can be viewed as an attempt to explore the technology of digital libraries. The former subsystem uses the software MEGA MEDIA to store and retrieve image documents to and from an array of optical disks, while the latter employs BRS/SEARCH to store textual and indexical information of image documents on hard disks. They are linked via an application software written in Smalltalk which also provides a user-friendly GUI. Image documents are entered into the system by scanning. Associated with each document is bibliographic information and/or some text describing it. Search and retrieval of image documents can be carried out through BRS/SEARCH using keywords or words in the associated text. The system was completed in 1996 and is still being tested. Documents stored include music notes, articles from serials/newspaper and books.

### 3. PULINET [2, 3]

PULINET, a network of collaboration among 12 provincial university libraries, was established, because the libraries were facing similar problems such as budget limitation, personnel shortage, increase of student and staff numbers and expansion of academic activities and programs leading to demands for new, timely and up-to-date information. In a meeting of the rectors of all provincial universities on 28 October 1985, it was decided that, in order to reduce expenditure, a collaborative library network should be established with the aim to efficiently and flexibly exchange and share information. Initially, PULINET linked 7 libraries at Chiang Mai University, Khon Kaen University, Prince of Songkla University(2 libraries), Mahasarakham University and the Maejo Institute of Agricultural Technology. These libraries cooperated in carrying out a number of activities with the aim of sharing information resources such as preparation of a union list of journals, subdivision of areas of speciality, development of a union catalog of books/documents and inter-library loan. At the beginning, most of these activities were carried out manually. Later on, microcomputers were employed. It was only in 1993 that a budget of US\$ 5.6 millions was allocated for a 3-year period to interlink the library computers. Around this time, 7 libraries of Burapa University, Naresuan University, Ubonratchathani University, Suranaree University of Technology and Taksin University joined the project. Eleven of these university libraries (one university has not yet made up its mind) employ the four different software packages: INNOPAC(6), DYNIX(2), HORIZON(2) and VTLS(1) and are on the academic Internet called Thai Sarn which belongs to the National Electronics and Computer Technology Center (NECTEC) of the Ministry of Science, Technology and Environment.

### 4. THAILINET-M [1, 2]

The THAILINET-M project was initiated by a decision of a Sub-Committee on University Library Development of the MUA in 1993. In some sense, it was stimulated by PULINET which began a few years earlier. THAILINET-M, a 3 year project (1995-1997) with a total budget of US\$ 6.59 millions, joins Chulalongkorn University, Kasetsart University, Thammasart University, Mahidol University, Ramkhamhaeng University, Silpakorn University (Wang Ta Pra), Srinakharinwirote University (Prasarnmit), Sukothai Thammathirat Open University, the National Institute of Development Administration and the King Mongkut's Institute of Technology with branches at Lardkrabang, Thonburi and Northern Bangkok in the Bangkok Metropolitan Area. It aims to:

1. develop automated library systems with high capability and efficiency to provide information services meeting the country's goal to develop higher education and supporting effective and efficient sharing of information resources within universities, as well as nationally and internationally.
2. construct a metropolitan university library network which employs modern computer and communications technology, in order to increase the efficiency of academic services, reduce duplication of effort in application of resources, and save resources in management and services.
3. integrate PULINET and THAILINET-M into a national network and to interconnect it with other networks nationally and internationally.
4. develop human and library resources and ready them for absorption of new information technology and response to new demands on information services.

Completion of the project should lead to:

1. standardized databases of books and academic publications, shared by and exchanged among the libraries involved,
2. a computer system with library software and communications equipment appropriate to the status and potential of each library, so that on-line public access services within a university and between different universities can be provided,
3. a system, linking the 12 university libraries for remote information retrieval services and interaction with PULINET and Internet,
4. university librarians and information scientists who have good knowledge of modern information technology and experience in the management and service provision of academic information.

At present, these 11 universities have acquired library software from 4 different suppliers: INNDPAC (8), DYNIX (1), HORIZON (1), and VTLS (1). There are currently about 1.1 million records in the combined bibliographic databases; this number is expected to increase to about 2 millions by the end of 1997.

## 5. Future Plans [1]

The development of university libraries in Thailand is an on-going project. It is planned to merge PULINET and THAILINET-M and form a nation-wide network of university libraries, THAILINET, which will become a part of the country's Information Superhighway to provide multimedia and advanced services. Such a network will benefit university staff and students as well as the general public. It fits very well into the country's 8th Economic and Social Development Plan (1997-2001) which emphasizes human resources development.

The objectives of THAILINET are to:

1. improve the efficiency of the operations of the automated libraries established in the preceding phase,
2. develop the university libraries so that they become centers of learning and information (particularly local information) in support of human resources development and higher-education management,
3. enhance the capability of PULINET and THAILINET-M and links between them as well as links with other domestic and international networks,
4. support distribution of education opportunity and equality in education by means of distant learning,
5. develop a National Bibliographic Center,
6. develop human resources in terms of both users and service providers, so that they have knowledge and experience in the management and utilization of information.

All the member universities of PULINET and THAILINET-M will take part in this project. It is expected that in the end the project will comprise 30 domain-specific databases, a National Bibliographic Center, full-text databases, digital libraries, and an electronic inter-library loan system. In addition, it is planned to organize courses to train 300,000 users and information specialists.

## 6. Conclusions

Even though Thailand might have been late in automating her libraries, she is moving now in the right direction, as is shown by the plan for THAILINET which recognizes and puts emphasis on 3

issues: construction of a single nation-wide network, human resources development and collaborative management and operation of the network. In particular, the last aspect of the project is very important. However excellent its computer network may become, THAILINET will not achieve its main objective of reduction of duplication and exchange/share information without good cooperation among its member libraries. In not too far the future, THAILINET should be expanded to include NLT and all other public and private universities libraries.

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